CLAIMS

What is claimed is:

1. A dispenser of tanks, said tanks have top dispensing ends, comprising:

a cabinet with multiple storage compartments to store and dispense filled tanks and to receive and store empty tanks, said compartments each being sized to receive a single tank;

a plurality of doors hingedly mounted to said cabinet and movable to and from open positions allowing access to said compartments and closed positions limiting access to said compartments;

a plurality of fluid operated locks associated with said doors and said cabinet releasably locking said doors in said closed positions; and,

a fluid control apparatus located remotely from said cabinet and connected to said locks to unlock via fluid said fluid operated locks allowing said doors to move to said open positions.

2. The dispenser of claim 1 and further comprising:

a plurality of brackets mounted within said compartments and being sized to receive the dispensing ends of tanks to limit insertion of said tanks into said compartments with only said top dispensing ends in an upward position.

3. The dispenser of claim 1 wherein said fluid control apparatus includes:

a source to hold pressurized fluid located remotely from said cabinet and in communication with said locks;

a plurality of fluid valves operably connected between said source and said locks to direct pressurized fluid from said source to said locks for activation of said locks; and,

an authorization device connected to said valves to control operation thereof.

4. The dispenser of claim 1 and further comprising:

a plurality of weight sensors, one for each compartment, to sense presence of a filled tank, presence of an empty tank, and absence of a tank within a compartment, said weight sensors being in fluid communication with said control apparatus.

5. The dispenser of claim 1 and further comprising:

a plurality of door switches, one for each compartment, to detect the positions of said plurality of doors, said door switches being in fluid communication with said control apparatus.

6. The dispenser of claim 5 wherein said control apparatus includes:

a source of pressurized fluid located remotely from said cabinet and in fluid communication with said locks;

a plurality of fluid valves operable connected to said source and said locks to direct pressurized fluid from said source to said locks for activation of said locks; and,

an authorization device connected to said valves to control operation thereof.

7. The dispenser of claim 6 and further comprising:

a plurality of weight sensors, one for each compartment, to sense presence of a filled tank, presence of an empty tank, and absence of a tank within a compartment, said weight sensors being in fluid communication with said control apparatus..

8. The dispenser of claim 7 and further comprising:

fluid lines extending between said control apparatus and said door switches, said weight sensors, and said locks and providing the sole control communication therebetween.

9. The dispenser of claim 8 wherein:

each of said weight sensors operable to reduce fluid pressure in a fluid line extending between said weight sensors to said control apparatus corresponding to the presence of an empty tank, and absence of a tank within a compartment.

10. The combination of:

a plurality of tanks with top ends with outlets;

a frame forming a plurality of individual lockers each for holding one of said tanks;

a plurality of doors mounted to said frame adjacent each of said lockers and having closed positions limiting access to said lockers and open positions allowing access to said lockers;

fluid operated locks mounted to said frame and engageable with said doors to lock said doors in said closed positions;

fluid operated sensors mounted to said frame for each of said lockers to detect the absence of tanks positioned within said lockers;

a source of pressurized fluid;

a plurality of fluid lines extending from said locks and said sensors to said source of pressurized fluid; and,

a control apparatus upon command to control fluid flow to said locks for activation thereof and to receive data from said fluid operated sensors for determination of the presence of a filled tank, presence of an empty tank, and absence of a tank within a locker.

11. The combination of claim 10 wherein:

said lockers each have a top portion and a bottom portion, said sensors include floors movably mounted at said bottom portion and movable between a lower position corresponding to when a filled tank rests thereatop, an intermediate position corresponding to when an empty tank rests thereatop and an upward position corresponding to when a tank is not positioned thereatop, said sensors are floor location sensors mounted to said frame adjacent each of said floors, said floor location sensors sensing if said floors are in the lower position, intermediate position, or upward position and providing sensing data via said fluid lines to said control apparatus.

12. The combination of claim 11 and further comprising:

a plurality of collars mounted to said frame within said lockers, said collars are located in said top portion of each of said lockers and are sized to receive the top ends of said tanks limiting insertion of said tanks into said lockers when only said tanks are upright locating said outlets thereatop.

13. The combination of claim 12 and further comprising:

a plurality of switches mounted to said frame for each of said lockers and located adjacent said doors to detect when said doors are closed or open, said switches connected via said fluid lines to said control apparatus to provide sensing data as to whether said doors are closed or open.

14. A method of dispensing tanks having top ends comprising the steps of:

providing a plurality of lockers to hold a plurality of tanks, each of said lockers having a door, a fluid operated door lock, a fluid operated tank sensor, and a fluid operated door position sensor;

providing a control apparatus remotely from said lockers, said control apparatus having fluid lines connected to said door lock, said tank sensor and said door position sensor for said lockers;

inserting a plurality of filled tanks, one each, into said plurality of lockers;

closing said door for each of said plurality of lockers;

pressurizing a fluid line extending from said control apparatus to said door lock, said tank sensor, and said door position sensor corresponding to a particular locker;

sending an unlocking command via said fluid line from said control apparatus to said fluid operated lock on a door associated with said particular locker to open the door;

removing a tank from said particular locker; and,

sending data to said control apparatus via said fluid line connected to fluid operated tank sensor of said particular locker corresponding to whether a tank is absent from said particular locker or an unfilled tank is present in said particular locker.

15. The method of claim 14 and further comprising the step of:

sending data to said control apparatus via said fluid line connected to said fluid operated door position sensor corresponding to said particular locker.

16. The method of claim 15 and further comprising the steps of:

after said pressurizing step, keeping said line connected to said door lock corresponding to a particular locker at a constant pressure until said door is open;

keeping said line connected to said tank sensor corresponding to a particular locker at a constant pressure after said door is open until a tank is removed from said particular locker; and

reducing said pressure in said line connected to said door position sensor corresponding to a particular locker once the corresponding door is closed.